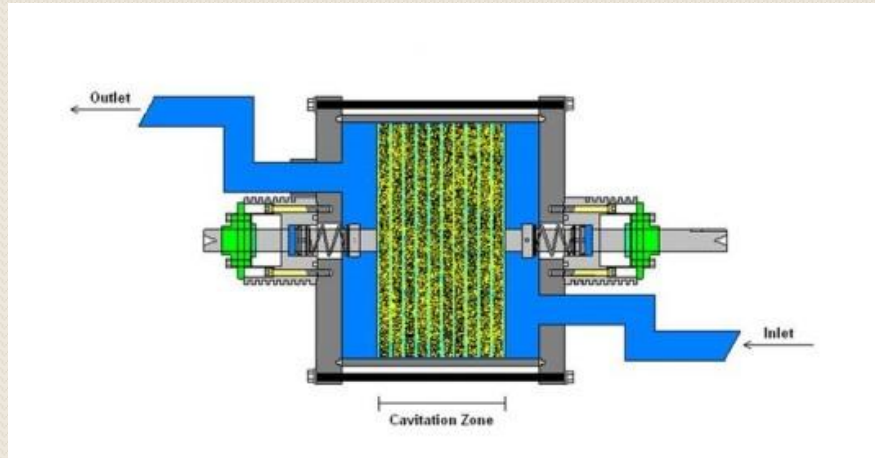


Biodiesel Transesterification



Hydro Dynamics, Inc. (HDI) has developed a patented technology providing breakthrough benefits for industrial processing of fluids. HDI's product, the ShockWave Power™ Reactor (SPR) utilizes "controlled cavitation" to solve critical problems for customers in numerous industries. The SPR represents a paradigm shift for fluid processing and is truly a next generation industrial technology that allows customers to realize significant cost savings through improved efficiencies, lower capital expenditures, decreased maintenance costs and reduced environmental impact. The SPR has been installed all over the world and is used by several Fortune 500 companies. HDI, founded in 1991, is headquartered in Rome, Georgia, USA.

Technology



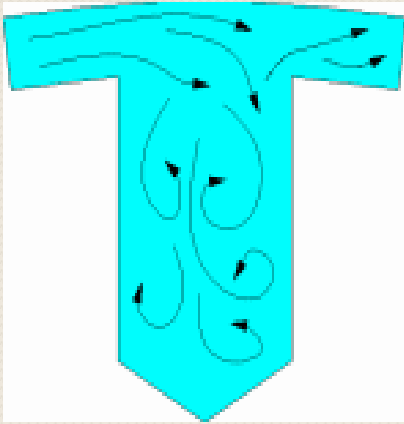
As a liquid passes through the SPR it is subjected to “controlled cavitation”. The heart of the device is a specially designed rotor that spins. The spinning action generates hydrodynamic cavitation in the rotor cavities away from the metal surfaces. The cavitation is controlled and therefore there is no damage. As microscopic cavitation bubbles are produced and collapse, shockwaves are given off into the liquid which can heat and/or mix.

ShockWave Power Biodiesel Reactor



The SPR can process low-grade soy, poultry fat and beef tallow without compromising results while producing tremendous savings. The SPR offers numerous advantages over conventional technologies because it can run as a true continuous process or in batch mode. To date we have sold 500 million gallons of biodiesel reactor capacity.

Surface Refreshing for Higher Mass Transfer



Higher surface refreshing in electrochemical or photon related reactions can result in higher mass transfer. Any chemical reaction that must occur on a surface could benefit from our surface refreshing technology by improving the exposure, the selectivity, and the yield by decreasing surface area requirements, operational costs, capital costs and footprint requirements.

Our unique reactor design imparts five different mixing forces on the liquid at any given point in the reactor. These extreme mixing forces increase the rate of surface refreshing on the inner surface of the housing. The result is a concentration gradient at the surface, which cycles the process chemicals for the treatment. This action increases the mass transfer of photons in our UV-SPR and Electrons in our Electro-SPR.

At any fixed point on the inner housing surface, the refreshing rate may be as high as several thousand times per second.

For more information please visit
<http://www.hydrodynamics.com>